

## **ABSTRACT**

**[0046]**        Template patterns in accordance with the present invention can include one or more marker-zones printed to a reference surface of a disk for determining gross-position along a stroke of a read head connected with a rotary actuator. The one or more marker-zones can be printed or otherwise written to a portion of the reference surfaces as one or more pulses. In one embodiment, each pulse can trace the motion of the stroke along at least a portion of the radius of the reference surface. A pulse can identify a marker-zone edge when a di-bit (a transition pair representing a pulse) disappears at some radius from center of the disk. At a radius closer to the center of the disk, the di-bit can abruptly reappear so that the pulse is continued. The interruption in the radial continuity of the magnetized pulse defines the marker-zone and can be any length.